<u>What is Claimed Is:</u>

1.   A method in an OFDM direct conversion receiver, the method including:

receiving a prescribed group of consecutive symbols in a received OFDM signal, and identifying within the prescribed group a first subgroup of the consecutive symbols and a second subgroup of the consecutive symbols, the first and second subgroups each having an equal number of symbol subgroup positions;

generating complex conjugates of the prescribed pilot tones of the first subgroup of the consecutive symbols;

generating a complex pilot product, for each symbol subgroup position, by multiplying the pilot tones of a second subgroup symbol at the corresponding symbol subgroup position with the respective complex conjugates of a first subgroup symbol at the corresponding symbol subgroup position;

obtaining an accumulated complex value by summing the complex pilot products of the symbol subgroup positions; and

calculating the frequency error from the accumulated complex value for use in correcting frequency offset.

2.   The method of claim 1, wherein the step of calculating the frequency error includes determining an inverse tangent of the accumulated complex value as the frequency error.

3.   The method of claim 1, wherein the receiving step includes increasing a size of the prescribed group of consecutive symbols, and consequently the number of symbol subgroup positions, based on a determined reduction in the frequency error.

4.   The method of claim 3, wherein the increasing includes increasing the size of the prescribed group of consecutive symbols while maintaining a phase difference in any one of the complex pilot products of up to an absolute value of pi (π).

5.   The method of claim 4, wherein the receiving step includes initially setting the size of the prescribed group to eight (8) symbols.

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6.   The method of claim 1, wherein the receiving step includes selectively discarding at least one symbol having been determined as having a signal to noise ratio below a prescribed level.

7.   An OFDM direct conversion receiver including:

a buffer configured for receiving a prescribed group of consecutive symbols in a received OFDM signal, the prescribed group including a first subgroup of the consecutive symbols and a second subgroup of the consecutive symbols, the first and second subgroups each having an equal number of symbol subgroup positions;

a complex conjugate generator configured for generating complex conjugates of the prescribed pilot tones of the first subgroup of the consecutive symbols;

a multiplier configured for generating a complex pilot product, for each symbol subgroup position, by multiplying the pilot tones of a second subgroup symbol at the corresponding symbol subgroup position with the respective complex conjugates of the first subgroup symbol at the corresponding symbol subgroup position;

a complex summation circuit configured for accumulating the complex pilot products of the symbol subgroup positions to obtain an accumulated complex value; and

an error calculator configured for calculating the frequency error from the accumulated complex value for use in correcting frequency offset.

8.   The receiver of claim 7, wherein the error calculator is configured for calculating the frequency error by determining an inverse tangent of the accumulated complex value.

9.   The receiver of claim 7, further comprising a state machine configured for increasing a size of the prescribed group of consecutive symbols, and consequently the number of symbol subgroup positions, based on a determined reduction in the frequency error.

10.   The receiver of claim 9, wherein the state machine is configured for increasing the size of the prescribed group of consecutive symbols while maintaining a phase difference in any one of the complex pilot products of up to an absolute value of pi (π).

11.   The receiver of claim 10, wherein the state machine is configured for initially setting the size of the prescribed group to eight (8) symbols.

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12. The receiver of claim 7, wherein the state machine is configured for includes selectively discarding at least one symbol having been determined as having a signal to noise ratio below a prescribed level.